APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/879,197	06/13/2001	Michio Komoda	027260-468	4052

7590 03/14/2006	EXAMINER

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ART UNIT	PAPER NUMBER
2128	

DATE MAILED: 03/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *15 December 2005*.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-3,5 and 6* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-3,5 and 6* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *13 June 2001* is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All b) ☐ Some * c) ☐ None of:

    1. ☒ Certified copies of the priority documents have been received.

    2. ☐ Certified copies of the priority documents have been received in Application No. _____.

    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☒ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. 0303.006

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-3, 5, and 6 are currently pending in this application and have been

presented for examination based on applicant's amendment filed 15 December 2005.

Claims 1-3, 5, and 6 remain rejected by the examiner.

Response to Arguments

2.   Applicant's arguments filed 15 December 2005 have been fully considered.

<u>Regarding applicant's response the 103(a) rejections</u>: The examiner withdraws

the 103(a) rejection in view of applicant's amendment to the claims and arguments

submitted 15 December 2005.

<u>Regarding applicant's response the 101 rejections</u>: The examiner maintains the

101 rejection of claims 1-3, 5, and 6 as not claiming a tangible result. Specifically, the

result of the method steps of claim 1 appear to simply be the resulting abstract

mathematical process of segmentation operating characteristics of an MOS transistor

into regions. (i.e. the output is simply an un-stored numerical value) Also see attached

interview summary.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
conditions and requirements of this title.

3.   **Claims 1-3, 5, and 6 are rejected under 35 U.S.C. 101 because the claimed**

invention is directed to non-statutory subject matter.

Specifically, independent claim 1 merely recites the steps of constructing, modeling resistive elements, and segmenting operating characteristics but does not appear to provide (or claim) a delay time estimation result. The Examiner therefore submits that Applicant's have not _recited_ any limitations that provide a _tangible result_ and have merely claimed the abstract mathematical process of segmentation operating characteristics of an MOS transistor into regions. No further limitations are recited that provide the actual delay time estimation from the constructing, modeling resistive element, and segmenting steps. Dependent claims 2, 3, 5, and 6 inherit the defects of claim 1.

An invention which is eligible for patenting under 35 U.S.C. § 101 is in the "useful arts" when it is a machine, manufacture, process or composition of matter, which produces a concrete, tangible, and useful result. The fundamental test for patent eligibility is thus to determine whether the claimed invention produces a **"useful, concrete and tangible result."** The test for practical application as applied by the examiner involves the determination of the following factors:

(1) "Useful" - The Supreme Court in Diamond v. Diehr requires that the examiner look at the claimed invention as a whole and compare any asserted utility with the claimed invention to determine whether the asserted utility is accomplished.

(2) "Tangible" - Applying In re Warmerdam, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994), the examiner will determine whether there is simply a mathematical construct claimed, such as a disembodied data structure and method of making it. If so, the claim involves no more than a manipulation of an abstract idea and therefore, is nonstatutory under 35 U.S.C. § 101. In Warmerdam the abstract idea of a data

structure became capable of producing a useful result when it was fixed in a tangible medium which enabled its functionality to be realized.

(3) "Concrete" - Another consideration is whether the invention produces a "concrete" result. Usually, this question arises when a result cannot be assured. An appropriate rejection under 35 U.S.C. § 101 should be accompanied by a lack of enablement rejection, because the invention cannot operate as intended without undue experimentation.

The Examiner respectfully submits, under current PTO practice, that the claimed invention does not recite a tangible result and is merely drawn to a manipulation of mathematical modeling by segmentation operating characteristics of an MOS transistor into regions.

- The invention is not **useful** since independent claim 1 does not recite a result from the steps of constructing, modeling resistive elements, and segmenting. This makes it difficult to determine Applicant's invention since it merely claims a manipulation of abstract ideas by segmentation operating characteristics of an MOS transistor into regions. (The patent eligibility standard requires **significant functionality to be present to satisfy the useful result aspect** of the practical application requirement. See Arrhythmia, 958 F.2d at 1057, 22 USPQ2d at 1036.)

- The claims are not **tangible** since, for example, the results of constructing, modeling resistive elements, and segmenting are undefined. No tangible result is recited as a result of the method steps recited in claim 1. (i.e. the output is simply an un-stored numerical value)

- The claims are not **concrete** because the results are not assured. For example, is a solution possible for any and all arbitrary inputs? (i.e. any segmentation of MOS regions?)

Conclusion

4.   *The prior art made of record and not relied upon is considered pertinent to*

applicant's disclosure, careful consideration should be given prior to applicant's

response to this Office Action.

U.S. Patent 6,066,177 issued to Iwanishi teaches time delay estimation in logic circuits

and a delay library.

U.S. Patent 6,606,587 issued to Nassif et al teaches time delay estimation in logic

circuits.

U.S. Patent 6,099,576 issued to Jiang teaches time delay estimation in logic circuits.

"Efficent Gate Delay Modeling for Large Interconnect Loads", A.B. Kahng et al, IEEE 0-

8186-7286-2/96, IEEE 1996 teaches time delay estimation in logic circuits.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Fred Ferris whose telephone number is 571-272-3778

and whose normal working hours are 8:30am to 5:00pm Monday to Friday. Any inquiry

of a general nature relating to the status of this application should be directed to the

group receptionist whose telephone number is 571-272-3700. If attempts to reach the

examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can

be reached at 571-272-. The Official Fax Number is: (703) 872-9306

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March 3, 2006   Primary Examiner